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The First Records of Olive Ridleys in Florida, USA

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Although olive ridleys (*Lepidochelys olivacea*) occur worldwide in tropical and warm-temperate ocean waters, their distribution in the western North Atlantic is limited mostly to the northern coast of South America and adjacent waters. Regular nesting occurs only in Guyana, Suriname, and French Guiana, and the bulk of the foraging grounds are probably nearby (Reichert 1989). In rare cases, olive ridleys are known to occur as far north as Puerto Rico (Horta *et al.* 2000), the Dominican Republic (Carr *et al.* 1982), and Cuba (Moncada-G. 2000). We now report three recent records of olive ridleys from Florida. These become the northernmost known occurrences of olive ridleys in the western North Atlantic and the first reports of olive ridleys in the eastern United States. All specimens were photographed.

On 21 December 1999, a live olive ridley was found floating near Marathon (in the Florida Keys, Monroe County, 24° 41.2'N and 81° 02.1'W). It was entangled in approximately 15 kg of trawl net but otherwise appeared to be in good condition. The straight-line carapace length (CLSL, from the nuchal notch to posterior marginal tip) of the turtle was 62.6 cm. It had

seven pairs of costal scutes and was presumed to be an adult male because the tail extended well beyond the carapace. The turtle was taken to a rehabilitation facility but died about a month later. The presumed sex of the turtle was confirmed during necropsy.

On 10 September 2000, another live olive ridley was found floating just offshore of Key Largo (also in the Florida Keys, Monroe County, 25° 03.9'N and 80° 28.7'W). It was missing its left front flipper, had numerous large abrasions on the left side of the carapace, and was emaciated and lethargic. The CLSL of the turtle was 66.0 cm. It had at least six pairs of costal scutes on the right side (the scute lines were difficult to distinguish in the photographs because of the carapace damage) and was presumed to be an adult male because the tail extended well beyond the carapace. The turtle was taken to a rehabilitation facility but died about ten days later. The presumed sex of the turtle was confirmed during necropsy.

On 11 October 2001, a dead olive ridley was found washed-up on the beach of Sunny Isles (just north of Miami, Miami-Dade County, 25° 54.2'N and 80° 07.3'W). It was mostly covered with tar but did not

appear to be emaciated. The CLSL of the turtle was 23.2 cm. It had seven costal scutes on the left side and six costal scutes on the right side.

The responding participants in the Florida Sea Turtle Stranding and Salvage Network (FLSTSSN) originally identified all three of the olive ridleys as Kemp's ridleys (*Lepidochelys kempi*). The authors made the correct species identifications during routine verifications of the stranding reports based on the photographs of each turtle that were submitted by the FLSTSSN participants. Fortunately, frozen samples of each turtle were saved and the revised species identifications were confirmed through genetic analysis performed at the National Marine Fisheries Service Molecular Genetics Laboratory in La Jolla, California. A 470bp sequence of the mtDNA control region was obtained from muscle tissue collected from each of the specimens using standard procedures described in Dutton *et al.* (1999). The PCR amplification was conducted using LTCM1 and HDCM1 primers (Allard *et al.* 1994). Sequences were compared with all known variants published to date for Kemp's and olive ridleys, and all three matched Haplotype F (Bowen *et al.* 1997). This confirms that these animals were Atlantic olive ridleys, since this haplotype has been found only in the Suriname, Brazil, and Guinea-Bissau nesting populations of olive ridleys and is quite distinct from the Kemp's ridley sequences.

Because the olive ridleys reported here were originally identified as Kemp's ridleys, we wondered if it was likely that olive ridleys had been found before in Florida but had not been properly identified. To answer this question, we reviewed the records of dead or debilitated (i.e., stranded) Kemp's ridleys documented in Florida since 1980 (concentrating particularly on large ridleys found in the Florida Keys or in southeast Florida during the latter part of the year). Although we cannot say with complete certainty that olive ridleys have not been found in Florida before those reported here, we are fairly confident that they have not been overlooked (especially beginning in 1990, when photographic documentation of sea turtle strandings became more common).

One of the three olive ridleys found in Florida and the only olive ridley found recently in Puerto Rico (Horta *et al.* 2000) were both entangled in fishing net. Another of the olive ridleys that was found in Florida had injuries (abraded carapace) that may have resulted from net entanglement. These cases of net entanglement highlight a conservation concern for olive ridleys in the western North Atlantic.

The olive ridley that was found washed ashore in Miami-Dade County (SE Florida) was presumed to be a pelagic-phase turtle (CLSL 23.2 cm). Pelagic-phase hawksbills (*Eretmochelys imbricata*), green turtles (*Chelonia mydas*), loggerheads (*Caretta caretta*), and Kemp's ridleys have also been found washed ashore in this part of Florida, many also covered with tar (FLSTSSN database). We believe this demonstrates that pelagic-phase turtles of at least five species share habitat offshore of southeast Florida. Another pelagic-phase olive ridley (CLSL 21.4 cm) was reported earlier from Cuba (Varona 1974), indicating at least a rare, repeating occurrence of pelagic-phase olive ridleys in this part of the western North Atlantic.

Olive ridleys and Kemp's ridleys are both found in the western North Atlantic, but within this area, their population centers are widely separated. The reported occurrences of each species of *Lepidochelys* have never clearly overlapped. Because Kemp's ridleys are regularly found in south Florida, the records of olive ridleys presented here represent the first well-documented, repeating overlap in the distribution of the two *Lepidochelys* species.

The presence of adult male olive ridleys in the eastern United States might result in some hybrids between olive and Kemp's ridleys. It may be useful to occasionally evaluate genetic samples from Kemp's ridleys to monitor for signs of such hybridization.

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Olive Ridley Sea Turtles in Porto-Novo, Tamil Nadu, India, with an Observation of an Asian Giant Softshell Turtle

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A survey of the nesting activity of olive ridley sea turtle (*Lepidochelys olivacea*) was undertaken between 22 January and 15 February 2002 on the coastline in Porto-Novo, in the state Tamil Nadu, India (11° 3' N and 79° 4' E). This period corresponds to the annual migration made by adult female olive ridley turtles from more southern areas of the Indian Ocean to their main nesting sites in the state of Orissa. Some females choose to nest in Tamil Nadu and Andhra Pradesh, which lie south of Orissa (Rajashakar 1999).

The first day of the survey (22 January) revealed six stranded adult female olive ridley turtles. Four of these females had wounds apparently caused by propellers from boats. The other two stranded turtles were too decomposed to assess any injury. On 29 January a turtle emerged from the ocean and attempted to nest, but after two unsuccessful digging attempts it returned to the sea. Before it reached the water, it was intercepted for measurement and observations. This turtle had a curved carapace length of 67.0 cm, a curved carapace width of 68.5 cm, 6 pairs of lateral scutes, and 13 pairs of marginal scutes. A number of epibionts such as *Chelonibia testudinaria* were collected from the carapace of the live and stranded turtles.

Another large turtle was found stranded along the Porto-Novo coast near the mouth of the Vellar estuary: an Asian giant softshell turtle (*Pelochelys bibroni*). This species is considered to be rather tolerant of saline conditions (Pritchard 2001), and has been reported to

reach the tidal limits of the sea (Das 1985). The curved carapace length of Asian giant softshell turtles can reach and occasionally surpass the size of olive ridley turtles (Pritchard 2001). Along the coast of Gahirmatha, Orissa, this species shares nesting beaches with the olive ridley, and is often seen approaching the nesting site from the sea and the river (Das 1985). In India, the Asian giant softshell turtle is normally distributed in the states of Orissa, Tamil Nadu (Mandapam) and West Bengal (Das 1985).

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